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ABSTRACT

In an effort to determine the "how, what, when, and intent" of outdoor education, this brief report is based upon a survey of available free and inexpensive instructional materials relative to middle-grade outdoor education. A review of pertinent literature is presented and some analyzation is provided relative to the factors and rationale influencing teachers in the acquisition and selection of supplementary instructional materials. A procedural presentation is made for the acquisition of free and inexpensive materials which includes reference to an attitude scale and the following sources: (1) periodicals; (2) special education publications; (3) bibliographies for subject matter areas; (4) publisher's methods and supplementary source books; (5) source indexes; and (6) government sources. Concluding from the survey that not all materials requested and received are suitable, it is suggested that teachers: (1) use only the most recent references; (2) consider the possibility of utilizing local organizations for maintaining up-to-date files; and (3) take advantage of the services provided by such organizations as the National Science Teachers Association. Appendices present: survey form letters; the survey evaluation instrument; and some 25 instructional materials citations which include subject matter designation, title, publisher, cost, and evaluation comments. (JC)

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AN EVALUATIVE STUDY OF SOME SUPPLEMENTARY FREE AND INEXPENSIVE MATERIALS AVAILABLE FOR USE BY MIDDLE-GRADE CLASSROOMS INVOLVED IN OUTDOOR EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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by

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Indiana University at South Bend
South Bend, Indiana

April, 1975

EC 008681

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Rationale of the Study

Recognition of man's relationship to his environment has been an incentive for him to learn to understand, use and live within his surroundings. "The uniqueness of the outdoors as a setting for learning experiences is basically an expression of the unity of the universe of which man is an integral part," (Weiner, 1965) Throughout the history of education, we can find references to using the outdoors to enhance the learning situation. The theory of Outdoor Education as a valuable school experience can be traced back to Pestalozzi, Spencer, Rousseau and Herbert. (Hammerman, 1961)

Definition

Outdoor Education is best conceived of as a process of utilizing the outdoors as an integral part of the school curriculum. This interpretation implies that the users will consider the questions of how, what, when, and for what intent, in planning and evaluating outdoor experiences. (Weiner, 1967) Outdoor Education can involve processes applicable to all grade levels and to many disciplines and content areas. Experiences may be as brief as five minutes involving a particular observation to a week or more for an integrated experience at a resident facility. (Smith & Weiner, 1969)

Review of Literature

Outdoor Education as an organized movement has existed

for about thirty-five years. Efforts in camping, nature study, natural sciences, recreation, health, welfare, conservation, and curriculum development in education have been closely associated with this movement. Educators recognize the need for more deliberate development of rational processes and affective sensitivity. Conditions today that create a need for help through Outdoor Education include the misuse of natural resources, human problems associated with crowded living conditions and lack of open space for leisure time, and deteriorating physical and emotional well being. (Weiner, 1967) The American Association for Health, Physical Education and Recreation (AAHPER) appointed a committee in 1955 under the chairmanship of Julian W. Smith to present a comprehensive picture of community centered Outdoor Education. This project has had a significant impact on the nature and scope of Outdoor Education in the United States. (Smith, 1966) The movement has been further stimulated through national interest as expressed in the Elementary and Secondary Education Act of 1965. Title I and II of that act provided direction and funds for expanding Outdoor Education Activities.

Growing numbers of colleges and universities are becoming interested in Outdoor Education and offering courses and workshops, often at the graduate level. In addition to a wealth of leadership in Outdoor Education, there are abundant resources and materials available to many local communities at the present time. Some are sponsored by national, state,

and local organizations and agencies. (Smith, Carlson, Donaldson, & Masters, 1963) There has been an increase in pertinent Outdoor Education literature in the form of textbooks, articles, pamphlets and newsletters. From 1961-1967, eight textbooks were published on Outdoor Education dealing with broad interpretation, programming, administration, teaching techniques and specific activities and approaches, including: Freeberg and Taylor, 1961, 1963; Smith, 1963; Hammerman and Hammerman, 1964; and Hug and Wilson, 1965. (Weiner, 1967)

Outdoor Education is a valuable addition to a school's curriculum. Too often it is wrongly seen as an alternative to intellectual development. Outdoor Education involves people-college student, primary child, grandfather, boy, girl, intellectual or educationally subnormal-in experiences which make for all round growth. There is: intellectual stimulus of discovery of the natural world and man's impact upon it, the physical and mental growth which new skills confer, the development of personality and confidence which arises from working with others, a responsibility from being trusted to work without supervision, and the aesthetic appreciation of the natural world and quality of life. (McEvoy, 1974) An outdoor educational approach can promote more effective learning in school and is not in conflict with ideals of academic discipline.

Statement of the Problem

Educational leaders have the responsibility for making outdoor experiences meaningful within the school program. The teacher is an important key to unlocking the schools so pupils may become actively involved in experiencing the outdoors. It is sound educational practice to consider all available instructional resources in the planning of learning experiences. Often, teachers who desire to include Outdoor Education in their curriculum, must rely on local courses of study, in-service workshops, their own inventiveness, and free and inexpensive materials distributed through private and governmental agencies or industry. Only resources that add substance to a particular learning situation should be used. According to Hug, (1964) the following factors influence elementary teachers in the utilization of outdoor instructional activities:

> Upper elementary teachers who have had more education, who have majored in education, have had their education more recently, and who have taken many outdoor related courses, are more inclined to use outdoor instructional activities in their teaching.
>
> When a teaching situation involves a small class, sufficient reference materials, adequate teaching aids and equipment and numerous outside resource people to help the classroom teacher, upper elementary teachers will tend to use outdoor instructional activities in their teaching.
>
> Satisfactory results of previous outdoor instructional activities and an understanding of the values of outdoor instructional activities tend to encourage teachers to use outdoor instructional activities in their teaching.
>
> Personal interest in the out-of-doors, interest in trying new things, and participation in many outdoor related leisure time activities tend to result in the use of outdoor

instructional activities by upper elementary teachers.

The notion that "textbook" or "basic" materials must be covered and a lack of curriculur materials about outdoor instructional activities tend to discourage upper elementary teachers from using outdoor instructional activites in their teaching.

Specific Problem

Free and inexpensive materials can add substantially to the learning experience, thereby making the educative process more stimulating and more rewarding for students and teachers. It is important that these resources be used not just because they are free and available, but because they contain quality of content and format. (Robinson, 1958) As a supplement to textbooks, free and inexpensive materials have advantages. They:

are more up-to-date

allow a more appropriate medium of comminication

extend the depth and specificity of the topic

dramatize the subject effectively (Committee for Social Studies, 1960)

However, the abundance of free and inexpensive materials and resources presents problems of selection and use. It takes time to acquire and evaluate an appropriate amount of material. In addition, survey (Committee, 1960) has shown that teachers often are not aware of materials available.

Procedure

For the teacher who beleives in the value of Outdoor Education and desires to supplement the textbook with free and inexpensive materials, it is necessary to search various references as:

I. Periodicals
   (a) Education Journals
   (b) General Publications
   (c) Subject Journals

II. Special Education Publications
   (a) Local school systems or state departments
   (b) Educational Organizations

III. Bibliographies for Subject Matter Areas
   Extensive lists of free and inexpensive materials available on request, are published by many companies and trade associations.

IV. Publisher's Methods and Supplementary Source Books

V. Source Indexes
   These publications ranging in cost and revised frequently, are worth the investment.

   Educators Guides
   Educators Progress Service
   Randolph, Wisconsin

   Directory of Free Teaching Aids
   Publications Company
   Los Angeles, California

   Free and Inexpensive Educational Aids
   Dover Publications
   180 Varick Street
   New York, New York

   Free and Inexpensive Learning Materials
   George Peabody College for Teachers
   Division of Surveys and Field Services
   Nashville, Tennessee

   Free Learning Materials for Classroom Use
   Educational Service Publication
   Extension Service, State College of Iowa
   Cedar Falls, Iowa

VI. Government Sources

The following suggestions may be of value to the teacher when making requests:

1. Write your request on official stationary, if possible, and be sure to include your ZIP code.

2. Mention the source from which you obtained the materials.

3. Be sure to make clear that you are a teacher or other professional staff member of a school or instructional materials center. Sponsors are reluctant to provide materials if they believe they are ordered simply as an exercise for students.

4. The agencies can give you a better service if you indicate the grade level and subject for which the material will be used.

5. The annotation from the catalog is not part of the title and is not to be included in your request.

6. If any item has an identifying number, be sure to include it.

7. Ask for items singly, and be sure to quote the titles exactly as listed.

These last two directions are particularly important in making requests to the federal government in light of the following action of Congress.

Under the terms of Section 6 of the 1940 Post Office Department Appropriation Act, Federal Government Departments may not send through the mail free of postage any periodical, bulletin, or pamphlet unless this service has been requested. Form BLS2059 (DuVall, Krepel, & Truex, 1975, Ch.3, p.12)

A study of the cited references yielded, as predicted, an abundance of available information. In order to analyze and evaluate its suitability for use by a class of middle-grade children interested in Outdoor Education, it was necessary to request the materials by letter. (see Appendix.A) Responses

in the form of packaged material through the mail or by way of Parcel Post were received in as little as a few days and as much as two months. It was necessary to send a follow-up letter to a few sponsors. Postage was usually paid by the sponsoring agencies. Cooney, cited by DuVall, Krepel, and Truex, (1975, Ch.3, p.6) maintains that, "...Aside from the physical problems of where to put the stuff as it pours in, the educator's main task has become to separate the educationally useful from the irrelevant." Most often it is the teachers who decide which materials are to be used based on their attitudes.

Attitude scales are employed in the measurement of the attitudes of individuals or groups of individuals. The construction and interpretation of these scales require expert attention. The ideal attitude scale is not only reliable and valid, but also takes little time to administer, involves little paper and pencil work on the informants part, and can be given without rigid control of the test situation. An effective attitude scale consists of a limited series of varied statements of opinion about some given subject, presented in the form of a questionaire or check list, and evoking the responses indicative of the individual's attitude toward the given subject. Only when a particular attitude scale has already been developed which happens to apply to the surveyor's problem, is it likely that advantage can be taken of this important device. (Parten, 1950)

A most effective and efficient way to evaluate the resulting flow of materials was to employ an evaluative check-list developed by DuVall, Krepel, and Truex (see Appendix B) based on studies regarding what teachers need in the field of supplementary aids and services, and designed specifically for evaluating free and inexpensive materials.

Limitations

There are differences of opinion with respect to the relative merits and limitations of many of the methods and techniques employed in surveys. (Parten, 1950) This situation is aggravated by the fact that practical considerations must often outweigh theoretical ones. For instance, it would be impossible to identify by name and source all the leadership, equipment, and materials that relate to the broad area of Outdoor Education. The best procedure is for those interested to assemble information from agencies by reading reports, directories, and catalogs which describe the offerings, as was done, and make selections based on needs. Several types of resources other than printed materials such as films, filmstrips, slides, records, and tapes were not included in this study because of time constraints in ordering and scheduling. A further limitation experienced in this study was that as the result of a fast turn-over of available materials, some requests could no longer be filled. In addition, some possibly desireable material was limited to professionals living in particular states or regions.

Conclusion and Recommendations

The survey would indicate that not all the materials requested and received were suitable for a variety of reasons. (see Appendix C) Annotations can be misleading, making random selection, at best, a hit or miss affair. It is likely that some materials will be discarded. Sponsors sincere in their desire to provide educationally sound material, might make provisions to encourage evaluative comments from the users of the material.

To avoid disappointment and delay over materials no longer available, the teacher would be wise to use only the most recent references. The cost of the suggested references ranges from fifty cents to many dollars. Unless a school, local, or regional library or materials center subscribes to them, it would be too costly for individuals to acquire them on their own.

A considerable amount of a teacher's time could be spent in securing, reviewing, and evaluating the materials. It would be helpful if a local organization were developed to maintain an up-to-date file for the use of interested teachers. Individuals might also take advantage of services provided by an association such as the National Science Teachers Association (NSTA). These services include publications, loan of materials, and resource lists expressly for the purpose of helping teachers teach more effectively.

The value that can be derived from the use of quality free and inexpensive materials is worth the teacher's investment of time and effort.

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Appendix A

INDIANA UNIVERSITY at SOUTH BEND
1825 NORTHSIDE BOULEVARD
SOUTH BEND, INDIANA 46615

DIVISION OF EDUCATION

1820
1970

TEL. NO. 219—282-2341

February 10, 1975

Dear Sir:

I am a former teacher in the South Bend, Indiana, Community School Corporation, presently engaged in completing a Masters Degree in Elementary Education at Indiana University, South Bend Campus. The teaching of Outdoor Education in the intermediate grades is of special interest to me. Please send single copies of the free or inexpensive materials listed here for my perusal. If there are similar materials which you feel would be of value, I would be happy to have them included.

Sincerely,

Sandra Lee Mielke

Mrs. Sandra Lee Mielke
18392 Westover Drive
South Bend, Indiana 46637

0016

Sandra L. Mielke
18392 Westover Drive
South Bend, Indiana 46637

February 10, 1975

Lorado Taft Field Campus
Northern Illinois University
Oregon, Illinois

Dear Staff Members:

I received a B.S. Degree in Elementary Education from N.I.U. in June, 1964, have taught in the South Bend, Indiana, Community School Corporation, and am now completing requirements for a Masters Degree at Indiana University, South Bend Campus. Under the supervision of Dr. Charles DuVall, I am engaged in a study of free and inexpensive materials available for teaching Outdoor Education in the intermediate grades.

I have consulted resource catalogues such as those published by the Educators Progress Service, George Peabody College for Teachers, and Bruce Miller Publications; also Today's Education and local community resources. Are there other sources of which you might be aware? Dr. DuVall has suggested Inter-Library Loan as one means for transfer of information.

Outdoor Education has been of special interest to me. This is due in no small part to experiences at the Lorado Taft Field Campus.

Your consideration of this request is apprecaited.

Sincerely,

Sandra Moehling Mielke

INDIANA UNIVERSITY at SOUTH BEND
1825 NORTHSIDE BOULEVARD
SOUTH BEND, INDIANA 46615

DIVISION OF EDUCATION

TEL. NO. 219—282-2341

1820

1970

Dear Sir:

I have not received a response concerning:

which I requested in correspondence dated February 10, 1975. If the items have been sent recently, thank you for your attention to the request. I look forward to receiving them soon..

Sincerely,

Mrs. Sandra Lee Mielke
18392 Westover Drive
South Bend, Indiana 46637

Appendix B

FREE MATERIALS EVALUATION INSTRUMENT

Material being evaluated: _____

Please indicate your assessment of the material by checking ( ) the most appropriate response to each statement. The following is the key:

= Outstanding

= Good

= Fair

= Poor

= Not Applicable

O	G	F	P	NA	
					1. This material helped further my curricular objectives.
					2. The content of the material was appropriate to the instructional level of the students.
					3. The nature and scope were adequate to meet the instructional objectives.
					4. The expected instructional outcomes could be clearly identified.
					5. Current information was utilized in the material.
					6. The content was presented in an unbiased and objective manner.
					7. The material was free of stereotypes with respect to sex, race, and ethnic background.
					8. The material did not contain excessive or misleading advertising.
					9. Any advertising content was unobtrusive and free of propaganda.
					10. The material contained suggestions for use of other instructional resources.
					11. The material encouraged critical thinking.
					12. The suggested learning experiences encouraged creative problem solving.

PLEASE TURN PAGE

O	G	F	P	NA		
					13.	It was easily adapted to accomodate differing instructional needs.
					14.	It was appropriate to the maturity level of the class.
					15.	It held the interest of the students.
					16.	It was readable for a majority of the students.
					17.	Illustrations were well done and easy to interpret.
					18.	Pictures were well chosen and easy to identify.
					19.	Type face and print size were appropriate.
					20.	The material was durably packaged for shipment.
					21.	The material was easy to identify and store.
					22.	MY OVERALL EVALUATION OF THIS MATERIAL IS:

. . . . . .

23. The material was used with students at the following level:

___ Primary (K-3)
___ Intermediate (4-6)
___ Junior High (7-9)
___ Middle School ( )
___ High School (10-12)
___ Post Secondary (13+)
___ Ungraded
___ Out of school

24. The material was appropriate for use with the following instructional strategies

43.

___ Demonstrations (24)
___ Dramatic activities (25)
___ Drill/Practice (26)
___ Field observation (27)
___ Free time activities(28)
___ Games (29)
___ Group discussion (30)
___ Individual projects (31)
___ Lab practice (32)
___ Manipulative skills (33)
___ Panel discussion (34)
___ Problem solving (35)
___ Programmed instruction (36)
___ Research activity (37)
___ Role playing (38)
___ Self-evaluation (39)
___ Self-instruction (40)
___ Simulation (41)
___ Supervised work (42)
___ Other _____ (43)

44. Would you use this material again? ___ Yes ___ Not sure ___ No

Appendix C

Subject: Outdoor Education

Title: Outdoor Education (Revised 1970)

Publisher: American Association for Health, Physical Education and Recreation
1201 Sixteenth Street N.W.
Washington D. C. 20036

Cost: Single copies cost $1.25. There are discounts available on quantity orders..

Evaluation Comments:

Outdoor Education is a helpful pamphlet for the classroom teacher considering the possibility of including Outdoor Education in the school's curriculum. A listing of other publications and their cost was included along with a prepaid postage Business Reply Card requesting the user's evaluation of the contents..

Subject: Outdoor Education

Title: Snails and Slugs: Nature Study Tips (1968)

Publisher: American Nature Study Society
Betty McKnight Secretary
State University College
New Paltz, New York 12561

Cost: Other items were requested, however only one was sent free. Additional copies of "Tips" may be obtained from the Secretary at cost. The position of Secretary changes from time to time causing some delay of correspondence.

Evaluation Comments:

This item is #35 in a series. Its main usefulness lies in the nature information given the teacher about particular nature topics.

Subject: Outdoor Education-Microscopy

Title: Microscopy for Younger Students (1973)

Publisher: Bausch and Lomb Inc.
Rochester, New York 14602

Cost: Many of the aids listed are free to teachers. A reduced price applies on orders larger than 30.

Evaluation Comments:

This material certainly carries a pitch for using microscopes in the classroom along with some hints and suggestions for use and care. As the teacher's interest is aroused, each is encouraged to use the handy order blank for additional materials. Most seem designed as resource material for teachers. Films are available on a loan basis without charge.

Subject: Outdoor Education-Gardens and Trees

Title: A Child's Garden (1974)
Trees for a More Livable Environment

Publisher: Chevron Chemical Company
Public Relations ORTHO Division
200 Bush Street
San Francisco, California 94120

Cost: Free

Evaluation Comments:

It seems apparant that this company has funds to spend for some educational projects and especially advertising. If the teacher's need is for information concerning a children's garden or planting trees in urban areas, the material is especially good, but expect to receive a quantity of possibly useless advertisement. The company did not provide a listing of other publications that might be helpful for other topics..

Subject: Outdoor Education -Weather

Title: How to Forecast the Weather (1968)
Cloud Chart with Lesson Plan (1958)

Publisher: Cloud Chart, Inc.
9428 Camrose Road
Richmond, Virginia 23229

Cost: Each item cost 25¢ and 45¢ respectively. Larger quantity kits are available for classroom use at retail cost of $3.50 or $4.50.

Evaluation Comments:

The colorful chart was prepared to aid in the interpretation of cloud formations according to the International Figure Code. A helpful lesson plan including activities accompanied the chart.

Subject: Outdoor Education-Bees

Title: Story of Honey Production Beginning With Bees

Publisher: Dadant and Sons, Inc.
Hamilton, Illinois

Cost: Free to teachers

Evaluation Comments:

This material should be used basically as background information by the teacher or a student doing a study of bees as a hobby or project. The pictures and illustrations are black and white and a bit dated.

Subject: Outdoor Education-Air

Title: Breathing Space

Publisher: Exxon Company U.S.A.
Public Affairs Headquarters
P.O. Box 2180
Houston, Texas 77001

Cost: Free

Evaluation Comments:

It would appear that Exxon is another company that has felt the sting of public opinion and is spending money on research studies, good will projects, and free advertisement to tell their story. It serves a purpose, but doesn't meet the needs of elementary middle-grade classrooms.

Subject: Outdoor Education

Title: The World Around You:Environmental Education Packet (Revised 1972)

Publisher: The Garden Club of America
598 Madison Avenue
New York, New York 10022

Cost: Free

Evaluation Comments:

Of all the Outdoor Education materials received during this study, the above named packet could be the most comprehensive and helpful to students and teachers in a mid-level classroom. It accomodates differing instructional needs, is adaptable to various levels, provides suggestions for many activities, and leads the learner to other resources.

Subject: Outdoor Education

Title: Astrosolar Map

Publisher: General Electric
Missile and Space Division
P.O. Box 8555
Philadelphia, Pennsylvania 19101

Attention: Product Information

Cost: Free

Evaluation Comments:

The map-chart is colorful, up-to-date, and very informative, but definately more appropriate for a Junior High or Middle School science curriculum rather than a study of man's outdoor environment.

Subject: Outdoor Education -Weather

Title: A Golden Guide-Weather (1965)

Publisher: Golden Press-Western Publishing Company
Order Department
150 Parish Drive
Wayne, New Jersey 07470

Cost: Golden Press would prefer that the booklet be purchased from local sources. Individual copies of this and other booklets may be ordered directly, but a $1.00 fee for handling is charged plus cost of material.

Evaluation Comments:

This is a booklet most intermediate level science teachers would want available as an interesting and useful reference for themselves or the students. It is a small 160 page paperback with numerous illustrations.

Subject: Outdoor Education

Title: Science and Children (NSTA Journal for Elementary Level)

Publisher: National Science Teachers Association
1201 Sixteenth Street N.W.
Washington D.C. 20036

Cost: The subscription price varies with the type of membership. The journal is published September-November and January-May.

Evaluation Comments:

The journal is excellant. Not only does it provide practical hints and suggestions of "how to", but keeps the teacher up to date with recent developments. Also, numerous sources are cited for additional resources, many free or low cost. Paying the subscription price is well worth the value derived from the journal and the services provided by the association.

Subject: Outdoor Education -Conservation and Wildlife

Title: Wildlife of Lakes, Streams and Marshes
Wildlife of Farm and Field
Soil Means Life
Ranger Rick's Nature Magazine Reprints

Publisher: National Wildlife Federation
Educational Services
1412 Sixteenth Street N.W.
Washington D.C. 20036

Cost: Single copies are free to teachers. Bulk rate discounts apply on large quantities.

Evaluation Comments:

The above items are of excellant quality for use in the classroom by teachers and students. Many activity ideas are suggested within the content. A separate listing of other available publications may be ordered.

Subject: Outdoor Education-Bees

Title: The Story of Pollination
The City of the Bees
The Language of the Bees (Revised 1960)
Bees for Pleasure and Profit

Publisher: A.I. Root Company
Medina, Ohio 44256

Cost: These materials are free and available only in the Central and Eastern United States.

Evaluation Comments:

This is good resource information for a teacher or particular students interested in bees. The illustrations could be improved.

Subject: Outdoor Education -Weather, Stars

Title: Let's Find Out About Heat, Weather and Air (1946)
Know the Stars (1962)

Publisher: Scholastic Book Services
50 West Forty-Fourth Street
New York, New York 10036

Cost: The single copy books cost 60¢ and 75¢ respectively to professional staff. Retail price is higher.

Evaluation Comments:

Both paperbound booklets would be useful to the teaching of science in grades 4-6. They would not be especially challenging to most sixth graders. A study of the stars would be more meaningful during a resident outdoor education experience.

Subject: Outdoor Education -Shells and Rocks

Title: Let's Collect Shells and Rocks

Publisher: Shell Oil Company
One Shell Plaza Room 1541
Houston, Texas 77002

Cost: The material was free, but also included "expert" advice to improve gasoline mileage.

Evaluation Comments:

This 20 page guide booklet presents a simplified and brief introduction to shell and rock collecting. The true hound or student of earth science will have to look further for more detailed information.

Subject: Outdoor Education-Map Reading

Title: Adventures With Map and Compass: Orienteering (1975)

Publisher: Silva Company
702 Ridgeway Street
LaPorte, Indiana 46350

Cost: This pamphlet was free. Other supplies are available from the company for purchase including Teacher's Work books.

Evaluation Comments:

This material is most suitable for individual interest or small group activity for acquiring basic skills to explore nature on sight without loosing ones way thru a sport called orienteering.

Subject: Outdoor Education

Title: Camping Fun-Exploring Your Environment (1971)
Real Camping-Real Fun
You Can Be A Naturalist (Reprint from "The Junior Naturalist" New Haven Register)

Publisher: Skycroft Camps
Allan H. Bonwill
48 Grannis Street
East Haven, Connecticut 06512

Cost:

Evaluation Comments:

The first two pieces of material are generally an advertisement for Skycroft Camps, Ontario, Canada.. The reprint is informative and worth the 10¢ and self-addressed stamped envelope..

Subject: Outdoor Education-Natural Environment

Title: Natural Radiation Environment (1968)

Publisher: United States Atomic Energy Commission
P.O. Box 62
Oak Ridge, Tennessee 37830

Cost: Teachers and librarians may obtain a complete set of this series and other materials free.

Evaluation Comments:

This booklet is one of a series as part of AEC's educational assistance programs. Requests must be made on school or library stationery. This material is definately for the older child or serious student of atomic energy. Also included was: A Bibliography of Basic Books on Atomic Energy and The First Book of Information Science, both useful additions to a junior or high school library

Subject: Outdoor Education -Forests

Title: Why Leaves Change Color
In our Forests Are Many Mansions
How A Tree Grows - Chart
What We Get From Forest Land - Chart

Publisher: United States Department of Agriculture
Forest Service
Washington D.C. 20250

Cost: Single copies are free to teachers.

Evaluation Comments:

The above materials could be used by both students and teachers. The charts are informative and useful. Each teacher must use their own imagination to implement the materials into the curriculum as few activities are suggested. Other items were requested, but the supply has been exhausted.

Subject: Outdoor Education-Soil Conservation

Title: Teaching Soil and Water Conservation-A Classroom and Field Guide (1970)
Sediment (1973)
Outdoor Classrooms on School Sites (1972)

Publisher: United States Department of Agriculture
Conservation Service
Information Division
Washington D.C. 20250

Cost: Single copies are free to teachers

Evaluation Comments:

This material is of excellant quality and useful to both students and teachers. It includes numerous suggestions for activities, problem solving and critical thinking.

Subject: Outdoor Education-Earth Science

Title: Use and Conservation of Minerals
Collecting Rocks (1974)

Publisher: United States Department of Interior
Geological Survey
Washington Distribution Section
1200 South Eads Street
Arlington, Virginia 22202

Cost: Single copies of these items are sent free to teachers. A listing of other publications and their cost was included .

Evaluation Comments:

The department is the nation's principal conservation agency and promotes a obvious policy of wise resource management. It would seem worthwhile to investigate other publications of this agency.

Subject: Outdoor Education -Forests

Title: A Packet: Our Forests and You

Publisher: Western Wood Products Association
700 Yeon Building
Portland, Oregon 97204

Cost: Free

Evaluation Comments:

It is important to the wood products industry that the public know of its care and efforts toward conservation, thus money has been spent to provide a free packet of information about the Western Wood Products Association. This is good information for older children who could be discerning about industry's viewpoint.

Subject: Outdoor Education

Title: Leaves of Common Trees - Chart (1952)
Strictly for the Birds (Reprint: Conservation Magazine, February 1961)

Publisher: West Virginia Department of Natural Resources
Information and Education Section
1800 East Washington Street
Charleston, West Virginia 25305

Cost: Free

Evaluation Comments:

The chart is one of a series of nature charts. With a little searching, a teacher could find charts of better quality. The article could be helpful to those students with an interest in observing songbirds.

Subject: Outdoor Education- Forests

Title: Let's Learn About the Forest

Publisher: Weyerhaeuser Company
Information and Education Office
Tacoma, Washington 98401

Cost: Free

Evaluation Comments:

This pamphlet tells an interesting story about forests and leads the child to an understanding of the importance of tree farming and wise logging methods. In addition, numerous other pamphlets were received praising the superiority of the sponsoring company.

Subject: Outdoor Education-Natural Resources

Title: Natural Resources Planning Guidelines (1972)

Publisher: Wisconsin Chapter-Soil Conservation Society of America
P.O. Box 5155
Madison, Wisconsin 53705

Cost:

Evaluation Comments:

This booklet was a waste of $1.00. It serves a purpose for state or community planners of natural resources, but not for teachers' or childrens' use in the classroom.

Subject: Outdoor Education

Title: Weather and You (1970)
The Earth and Its Story (1972)

Publisher: Xerox Education Publications
245 Long Hill Road
Middletown, Connecticut 06457

Cost: Each item cost 45¢. Discount prices are in effect on orders of 10 or more copies.

Evaluation Comments:

Although much information is contained in these newspaper science units, most students, for whom the material was designed, would not find this exciting learning. A list of other publications is available on request from the company..